



|                 |               |
|-----------------|---------------|
| WEAR            | <b>NORMAL</b> |
| CONTAMINATION   | <b>NORMAL</b> |
| FLUID CONDITION | <b>NORMAL</b> |

Machine Id  
**920092-260371**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

No corrective action is recommended at this time. Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>GFL0114131</b>  | GFL0114149  | GFL0108081  |
| Sample Date    |     | Client Info |           | <b>29 Mar 2024</b> | 08 Mar 2024 | 13 Feb 2024 |
| Machine Age    | hrs | Client Info |           | <b>23907</b>       | 23785       | 23641       |
| Oil Age        | hrs | Client Info |           | <b>266</b>         | 144         | 14809       |
| Filter Age     | hrs | Client Info |           | <b>266</b>         | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>Not Changd</b>  | Not Changd  | Changed     |
| Filter Changed |     | Client Info |           | <b>Not Changd</b>  | Not Changd  | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | MARGINAL    | ABNORMAL    |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>9</b>     | 5    | 3    |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>&lt;1</b> | <1   | <1   |
| Nickel       | ppm    | ASTM D5185m | >4   | <b>0</b>     | 0    | 0    |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0    | 0    |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>2</b>     | <1   | 1    |
| Lead         | ppm    | ASTM D5185m | >40  | <b>0</b>     | <1   | 0    |
| Copper       | ppm    | ASTM D5185m | >330 | <b>&lt;1</b> | <1   | 0    |
| Tin          | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | <1   | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

**CONTAMINATION**

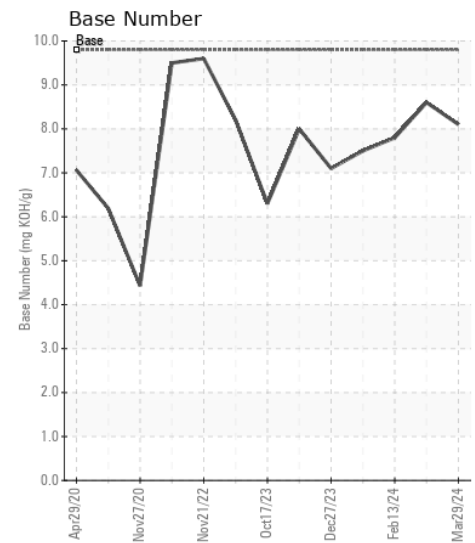
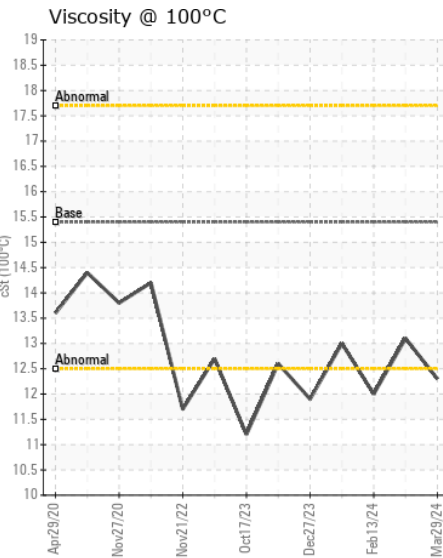
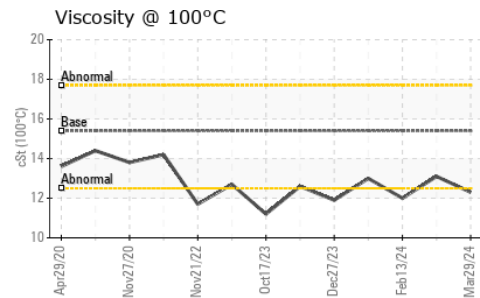
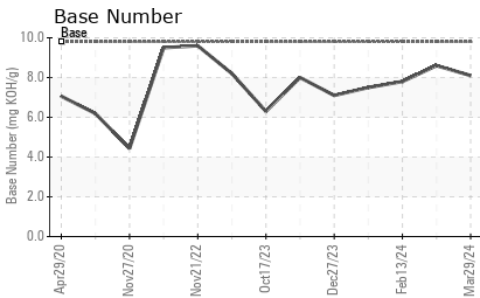
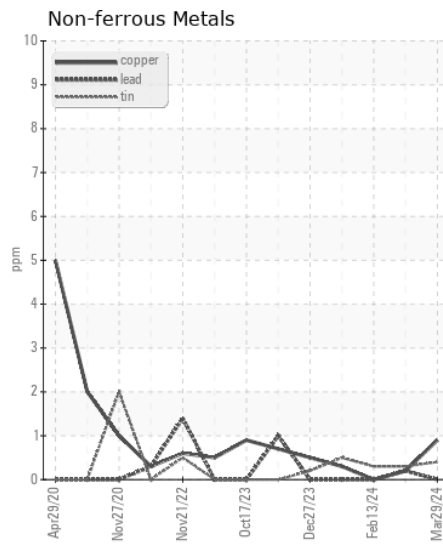
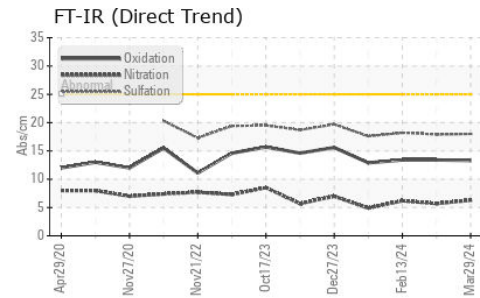
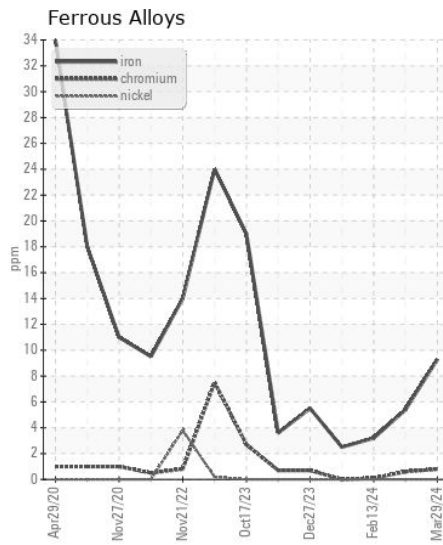
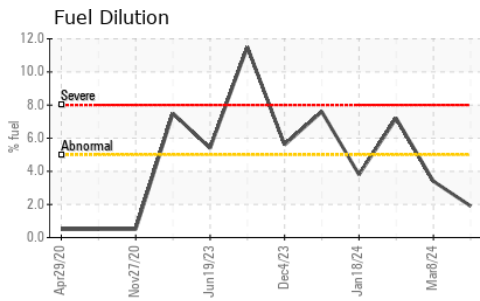
Light fuel dilution occurring. No other contaminants were detected in the oil.

|                  |          |             |       |              |       |       |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>5</b>     | 4     | 2     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>2</b>     | 14    | 1     |
| Fuel             | %        | ASTM D3524  | >5    | <b>1.9</b>   | ▲ 3.4 | ▲ 7.2 |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>   | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>   | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.3</b>   | 0.2   | 0.3   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>6.3</b>   | 5.7   | 6.2   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>18.0</b>  | 17.9  | 18.2  |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>  | LIGHT | NONE  |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Emulsified Water | scalar   | *Visual     | >0.2  | <b>NEG</b>   | NEG   | NEG   |

**FLUID CONDITION**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|                  |          |             |      |              |      |        |
|------------------|----------|-------------|------|--------------|------|--------|
| Sodium           | ppm      | ASTM D5185m |      | <b>4</b>     | 5    | 2      |
| Boron            | ppm      | ASTM D5185m | 0    | <b>0</b>     | 0    | <1     |
| Barium           | ppm      | ASTM D5185m | 0    | <b>0</b>     | 0    | 0      |
| Molybdenum       | ppm      | ASTM D5185m | 60   | <b>56</b>    | 55   | 49     |
| Manganese        | ppm      | ASTM D5185m | 0    | <b>&lt;1</b> | 0    | <1     |
| Magnesium        | ppm      | ASTM D5185m | 1010 | <b>872</b>   | 876  | 786    |
| Calcium          | ppm      | ASTM D5185m | 1070 | <b>1024</b>  | 1042 | 875    |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>1024</b>  | 996  | 877    |
| Zinc             | ppm      | ASTM D5185m | 1270 | <b>1160</b>  | 1157 | 1085   |
| Sulfur           | ppm      | ASTM D5185m | 2060 | <b>3066</b>  | 3391 | 2556   |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>13.3</b>  | 13.4 | 13.4   |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 9.8  | <b>8.1</b>   | 8.6  | 7.8    |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.4 | <b>12.3</b>  | 13.1 | ▲ 12.0 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0114131  
**Lab Number** : 06174923  
**Unique Number** : 11020976  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**Received** : 09 May 2024  
**Tested** : 15 May 2024  
**Diagnosed** : 15 May 2024 - Wes Davis

**GFL Environmental - 837 - Harrison TS**  
 22820 S State Route 291  
 Harrisonville, MO  
 US 64701  
 Contact: SARA PATRICK  
 spatrick@gflenv.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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F: